

**Williamson & Battolph****Stock and Bond Brokers**Phone 1182 P. O. Box 528  
53 MERCHANT STREET**Honolulu Stock Exchange**

Saturday, Sept. 14.

NAME OF STOCK	Bid	Asked
<b>MERCANTILE.</b>		
C. Brewer & Co.		
<b>SUGAR.</b>		
Ewa Plantation Co.	31 1/2	31 3/4
Hawaiian Agric. Co.	35	
Haw. Com. & Sug. Co.	41 1/2	41 3/4
Hawaiian Sugar Co.	41 1/2	42 1/4
Honolulu Sugar Co.	170	
Honokaa Sugar Co.	10	10 1/4
Hauku Sugar Co.		
Hutchinson Sugar Plant.		
Kahuku Plantation Co.	15	16 1/4
Kekaha Sugar Co.		32 1/2
Koloa Sugar Co.		
McBryde Sugar Co.	6 1/2	
Oahu Sugar Co.	27 1/2	
Omae Sugar Co.		59 1/4
Olaa Sugar Co. Ltd.	7	7 1/4
Paauhau Sugar Plant. Co.		
Pacific Sugar Mill		140
Paia Plantation Co.		
Peepee Sugar Co.		
Pioneer Mill Co.	33 1/4	34
Waialua Agric. Co.	120	125
Waialua Sugar Co.		
Waipahoehoe Sugar Co.		
Waimea Sugar Mill Co.		

<b>MISCELLANEOUS.</b>		
Inter-Island Steam N. Co.	20	
Hawaiian Electric Co.	12 1/2	
Hon. R. T. & L. Co. Prof.	145	
Hon. R. T. & L. Co. Com.	145	
Mutual Telephone Co.	24 1/2	25 1/4
Oahu R. & L. Co.	14 1/2	15 1/4
Hilo R. R. Co. Pfd.		
Hilo R. R. Co. Com.	7 1/2	7 3/4
Hon. B. & M. Co.	20 1/2	21
Haw. Irrig. Co.		
Hawaiian Pineapple Co.	44	44 1/4
Taniguchi R. C. Co. p. d. up.		39 1/4
Pahang Rub. Co.		20
Hon. B. & M. Co. Ass.		

<b>BONDS.</b>		
Haw. Ter. 4 1/2 (Fire Cl.)		
Haw. Ter. 4 1/2 Pub. Imps		
Haw. Ter. 4 1/2		
Haw. Ter. 4 1/2		
Haw. Ter. 4 1/2		
Cal. Beet Sug. & Ref. Co.	100	
Hon. Gas. Co. Ltd.	100	101
Haw. Com. & Sug. Co. 5 1/2	103	
Hilo R. R. Co. Issue 1901.	101	
Hilo R. R. Co. Com. 6 1/2	95	
Honokaa Sugar Co. 6 1/2		
Hon. B. & M. Co. 6 1/2	67	
Kauai Ry. Co. 6 1/2		
Kohala Litch Co. 6 1/2		
McBryde Sugar Co. 6 1/2		
Mutual Tel. Co.	104	
Oahu R. & L. Co. 5 1/2	103 1/4	
Oahu Sugar Co. 5 1/2		
Olaa Sugar Co. 6 1/2	97 1/2	
Pac. Sug. Mill Co. 6 1/2	90	
Pioneer Mill Co. 6 1/2	90	
Waialua Agric. Co. 6 1/2	102 1/2	
Natoma Con. Co. 6 1/2	94 1/2	
Haw. Irrigation Co. 6 1/2	100 1/2	
Hanalei Ditch Co. 6 1/2	91	

**SALES.**  
Between Boards—10 Oahu 28, 15 Oahu 28, 90 Oahu 28, 4000 Honokaa 66 100%, 10000 Natoma 66 94, 1000 n. lot 66, 100, 1000 Hilo 1901 66 101. Session Sales—1000 Olaa 66 97 1/2, 2000 O. R. & L. Co. 66 103, 2000 Hilo Ex. 66 95, 3000 Hilo Ex. 66 95, 10 Pineapple 44, 10 H. C. & S. Co. 43 1/2, 25 Brewery 21, 10 Honokaa 108.

Latest sugar quotation: 4.36 cents, or \$87.20 per ton.

**Sugar 4.36cts**  
**Beets 11s 9d**

**HENRY WATERHOUSE TRUST CO**

Members Honolulu Stock and Bond Exchange  
FORT AND MERCHANT STREETS  
Telephone 1206.

**Harry Armitage & Co.,**

Limited  
**STOCK AND BOND BROKERS**  
P. O. Box 683 Phone 2101  
HONOLULU, HAWAII  
Member Honolulu Stock and Bond Exchange

**Giffard & Roth**

**STOCK AND BOND BROKERS**  
Members Honolulu Stock and Bond Exchange  
Stangenwald Bldg., 102 Merchant St.

**J. F. Morgan Co., Ltd.**

**STOCK BROKERS**  
Information Furnished and Loans Made  
857 KAAHUMANU STREET  
Phone 1572

**BARGAINS! BARGAINS!**

We deal in listed and unlisted securities of all kinds. Hidalgo, La Zaca, Olga rubber, Paraisima Hills Oil stock, Mascot Copper.

**W. E. LOGAN & CO.**  
Room 17 Bacon Block, Oakland, Cal.

**P. H. BURNETTE**

Commissioner of Deeds for California and New York; NOTARY PUB. LIC; Grants Marriage Licenses. Draws Mortgages, Deeds, Bills of Sale, Legals, Wills, etc. Attorney for the District Courts. 70 MERCHANT ST. HONOLULU, Phone 1846.

**LOCAL AND GENERAL**

For a hack ring up 2307.  
Stylish tub dresses at Whitney & Marsh.

The Sunday afternoon band concert will be at Kapiolani Park at 3 o'clock. Lei Aloha Chapter No. 3, O. E. S., meets this evening in Masonic Temple.

The Queen street paving is now finished with the exception of the pipe-line trenches.

The new house of Mr. and Mrs. Tarleton in College Hills is finished and will be occupied next week.

Keep Pau ka Hana always in the house. It is the most effective enemy to dirt known to housekeepers.

Wanted—Two more passengers for around-the-island at \$5.00. Lewis Stables and Garage. Tel. 2141.

New line fall millinery. First class trimmer to arrive from New York Sept. 16th. "Dickerson's," Hotel Majestic.

Pineapple soda and Hire's Root Beer—excellent summer drinks—are bottled by the Consolidated Soda Works. Phone 2171.

Jordan's are closing out cheap next week some odd lines in muslin underwear. The garments are going for less than cost.

Rulers Given Away—A nice 12-in. Ruler given to all school children buying their school books and supplies of Wall, Nichols Co., Ltd.

Miss L. Merchant, formerly of E. W. Jordan & Co., will open a dressmaking parlor in the Pantheon building, Sept. 19. Rooms 21-22.

Bring 10 Green Stamps and one dollar and get a complete Boy Scout suit for, vacuums, Green Stamp Store, Beretania and Fort streets.

Chong Quong Shee and C. Kwal Ing want \$1400 from the supervisors for a twelve-foot strip of land to connect Broad lane with Kukui street.

Souvenirs will only be for the retail trade at Benson, Smith & Co. on Monday of next week, which will be known as souvenir day at the Rexall Drug Store.

By the Sierra, arriving Monday morning, we will receive a shipment of fresh California "Primrose" Pork Sausages. Henry May & Co., Ltd. Telephone 1271.

Dr. MacLennan removed to Alakea St., next Pacific Club a few doors below Beretania Ave. Wonderful cures of chronic diseases by new serum treatment. Phone 3630.

The St. Louis College Alumni Association will hold its annual quarterly meeting at the Club House at Dreier Hall, Union Street, Sunday, the 15th inst., at 10 a. m.

J. E. Koeha, Honolulu's leading tailor for men and women, has received his Fall suitings, which includes many exclusive patterns in English and American weaves.

We will receive by the Sierra Monday morning a shipment of fresh California Fruits and Vegetables and "Puritan" Creamery Butter. Henry May & Co., Ltd. Telephone 1271.

Manuel Rodriguez, an employee of Waiwala plantation, fell from a height of twelve feet last Wednesday and broke his arm in two places. He was removed to the Queen's Hospital.

Col. Samuel Parker last evening announced the engagement of Miss Clara Cummings to William Lyett. Both the young people are residents of Honolulu, the groom-to-be being connected with the Inter-Island steamship service.

Sheriff Jarrett's report for August shows 432 arrests and 320 convictions, the latter being distributed as follows by nationality: Hawaiians, 75; Chinese, 90; Japanese, 50; Portuguese, 21; all others, 89. Fines and costs collected amounted to \$2464.

Kalmiki stone gathers the moss. Japanese contractors gather the stone that gathers the moss. The police gather the Japanese that gather the moss that gathers the moss. And, incidentally, one does not see so many Japanese trucks, loaded with moss stone, coming toward early in the morning nowadays.

On second reading last night the dance hall ordinance was amended in accordance with the suggestions made at the public meeting on Tuesday evening. Premises surrounding a dance hall must be well lighted. Liquor is forbidden to be served within a dance hall a provision which it is considered, will not interfere with the giving of dances at the big hotels.

Mrs. Elizabeth K. Meyers is the principal defendant in a suit brought by Attorney General Lindsay against several persons thought to have an interest in a tract of ten acres in Palama, which the Territory desires to add to its holdings as a part of the site of the new Oahu prison. An appropriation for the jail was made by the last Legislature, and active construction will begin as soon as the amount of land desired is obtained by condemnation.

**MANY BOND SALES**  
**THE DAY'S FEATURE**

Sales of bonds to the par value of \$17,000 recorded on today's stock sheet largely redeem the appearance of a dull week's record. For the five days on which the exchange held sessions this week the sales amounted to \$81,051.50, as compared with \$105,557 for the same number of days last week, a decrease of 22,505.50.

Of the bonds sales \$10,000 were sold at the session, and the entire bunch was as follows: Honokaa sixes, \$400 at \$103.50; Natoma Con. sixes, \$1000 at 94; Cal. Beet Sugar and Ref. Co., \$1000 at 100; Hilo Railroad 1901 sixes, \$1000 at 101; Olaa sixes, \$1000 at 97.50; O. R. & L. Co. sixes, \$1000 and \$1000 at 103; Hilo Railroad Extension sixes, \$2000 and \$5000 at 93, the last an advance of a quarter point.

Stocks sold as follows: Oahu Sugar Co., 10, 15 and 90 unchanged at 28; Hawaiian Pineapple Co., 10 shares unchanged at 44; Hawaiian Commercial and Sugar, 10 shares unchanged at 42.50; Honolulu Brewing and Malting Co. shares unchanged at 21; Honokaa Sugar Co., 10 shares at 10.12 1/2; a drop of one-eighths point.

**HomeCourse****In Road Making****X.—The Macadam Road.**

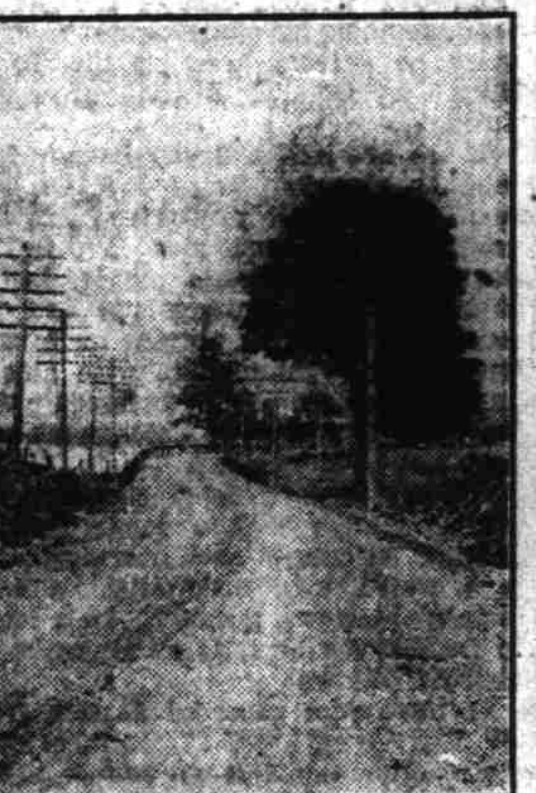
By LOGAN WALLER PAGE,  
Director Office of Public Roads,  
United States Department  
of Agriculture.

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WHEN it is considered that a rise of one foot in a hundred increases by about twenty pounds the amount of force required to haul a load of one ton the question of grades is one not to be overlooked in road building. The character of the soil and natural drainage conditions have much to do with the cost of maintenance. Therefore too much consideration cannot be given to location. The main points to be dealt with are (1) directness, (2) grade, (3) natural drainage and (4) character of the soil.

The foundation to be built for any road should depend largely upon local conditions. Some soils of a gravelly nature make the best foundations and will be sufficient without treatment other than grading upon which to construct a macadam road.

Soils that are of a clayey nature or that contain pockets of quicksand, unstable earth or organic matter are treacherous and require special treatment.



THE MODERN MACADAM ROAD.

In such cases the unstable material should be removed and replaced with gravel or sand, and wherever practicable the earth subgrade should be thoroughly rolled, preferably with a steam roller, and made to conform in crown or camber to the surface of the finished road. Sandy subgrades may be improved by the use of a thin layer of clay or soil.

There are two forms of drainage essential in road building. (1) surface drainage and (2) subdrainage. There are three essential points to be considered in connection with surface drainage. (1) The surface of the road should be of such a shape that water will quickly drain from it to the side ditches; (2) the side ditches should be adequate in size to carry, without overflow, the maximum rainfall, and they should be of such depth and grade that water will travel easily to low points on the road, and (3) from the low points there should be suitable outlets to convey the water to the natural drainage of the country.

Water should never be permitted to remain under a macadam road; consequently subdrainage must be resorted to at times. Water softens the foundation, allows the broken stone to be forced into it by the traffic, and in freezing it expands and dislodges the broken stone, destroying the bond. There are several ways of removing the subsurface water, (1) by raising the subgrade; (2) by side drains consisting of narrow trenches filled with broken stone, with a pipe five or six inches in diameter near the bottom. A drain of this type should have frequent side outlets. On hillsides a pipe or culvert is carried under the road at suitable points.

Another type of subdrain that is much used in Massachusetts is the "Y" drain. It consists in shaping the subdrain in the form of a "Y," the angle being at the center of the road. This is filled with coarse stone up to the foundation grade and has frequent side outlets. This type is rather expensive and very frequently can be dispensed with by raising the subgrade with suitable sand, gravel or clay.

Another type of drain practical for side hill locations is a subsurface drain, located on the upper side of the road to intercept and provide an outlet for surface and ground water before it reaches the road proper.

Great care should be used in properly grading a road.

The practice in America is generally to place the maximum grade at 5 per cent for important roads, as a horse can trot without difficulty up such a grade, and another important consideration in connection with grades is that a macadam surface can only be maintained at great cost on steep grades.

In fixing the grades the engineer should so adjust the cuts and fills as to make the least possible waste of material, and in this he must not overlook the fact that some materials shrink to a great extent when taken from the cuts and placed in the fills. This varies with the material, but averages

about 15 per cent. The careful engineer will set his grade stakes not more than fifty feet apart, and in no case should they be over a hundred, and these will serve later for the macadam work. In grading ample material should be left to form the shoulders. Care should be used in properly sloping cuts and fills to avoid as far as possible settlement of material. A slope of not less than one and one-half to one should be used. Care should also be taken to have the gutter grades so fixed that there will be at least a fall of six inches in each hundred feet in order to provide surface drainage.

In general, any stone that is to be used in road building should be tested for hardness, toughness, resistance to wear and blinding or cementing value. The specific gravity, weight per cubic foot and water absorption are also determined. With such data as this in hand and a knowledge of the volume and character of traffic to which the road is subjected the engineer can make an intelligent selection of the best available material. While the diabases, diorites and basalts, all commonly known as traprock, in general meet the conditions where macadam roads are necessary, yet it is unwise to select a rock by species alone, as they all vary greatly.

There are two distinct types of broken stone road in use today, known as macadam and telford roads. The macadam road of today is so different from the type specified by Macadam that the relation is hardly recognizable. By the best practices used this road consists in a foundation course of two and one-half inch stone of varying thickness. This foundation should be thoroughly rolled with a steam roller and not more than a thickness of five or six inches rolled at a time. On top of this is placed a three or four inch layer of one and one-half inch stone, and after thoroughly rolling a layer of rock screenings below a three-quarters of an inch in size is spread. This layer of screenings should be sufficient only to fill the surface voids of the wearing course and should not be applied all in one layer. Each application of screenings should be rolled in before the next application is made. After the surface has been thoroughly filled with screenings the road should be well sprinkled with a watering cart and rolled with a steam roller until it is thoroughly bonded. This rolling should continue until the surface ceases to wave in front of the roller.

Stone should never be dumped on the road, and if specially devised spreading wagons are not used the stone should be dumped on boards and spread from them on to the road. The contractor should be required to place about a hundred tons of No. 2 stone and screenings at a convenient place for each mile of road built for the purpose of making future repairs.

The telford road of today varies only from the macadam road in that it has a hard paved foundation course, consisting of coarse stone eight or nine inches in its greatest dimensions. These stones are placed on edge in the subgrade, by hand on their broadest bases and at right angles to the line of the road, and all irregular portions are broken off with hammers.

This type of road was first designed by a French engineer named Tresaguet forty years in advance of Telford. The roads built by Telford had flat subgrades, but those constructed by Tresaguet had cambered subgrades, which were supposed to have the effect of a keystone arch, and this is the form in which they are constructed today. It is rather an interesting fact that in France practically all of the broken stone roads are of the Macadam type, while in England they are largely of the Tresaguet or Telford type.

Experience has proved that the only way in which roads can be kept in good condition and at reasonable cost is by continuous and intelligent maintenance. It is a mistaken although unfortunately general impression that certain types of road are permanent. No permanent road has ever been constructed or ever can be.

Gutters, catch basins and culverts ought by all means to be kept clean, and small gullies in shoulders should be filled before they become too large. The loose stone which nearly always appears on the surface of a macadam road the first spring after it is built should be raked up and cracked for future use. Small holes and incipient



A POORLY CONSTRUCTED MACADAM ROAD.

ruts should be filled as soon as they appear with the same kind and size of stone as that used in the surface course. If small defects are attended to when they first appear it will be unnecessary to resurface the road until it is worn entirely through to the foundation course. When the surface course is worn out it ought to be spiked up with a steam roller or scarifier and this followed by the spreading of a three inch layer of one and one-half inch rock. This is rolled, bonded with screenings and sprinkled in the same manner as the top course was originally constructed, after which the road will be as good as new.

**THE OUTLET**

PERPETRATED BY WALT McDOUGALL



**DIED.**  
BEARD—In Honolulu, September 13, 1912, Alice, daughter of the late E. B. and A. E. Beard of Modesto, California. Remains will be shipped to California.

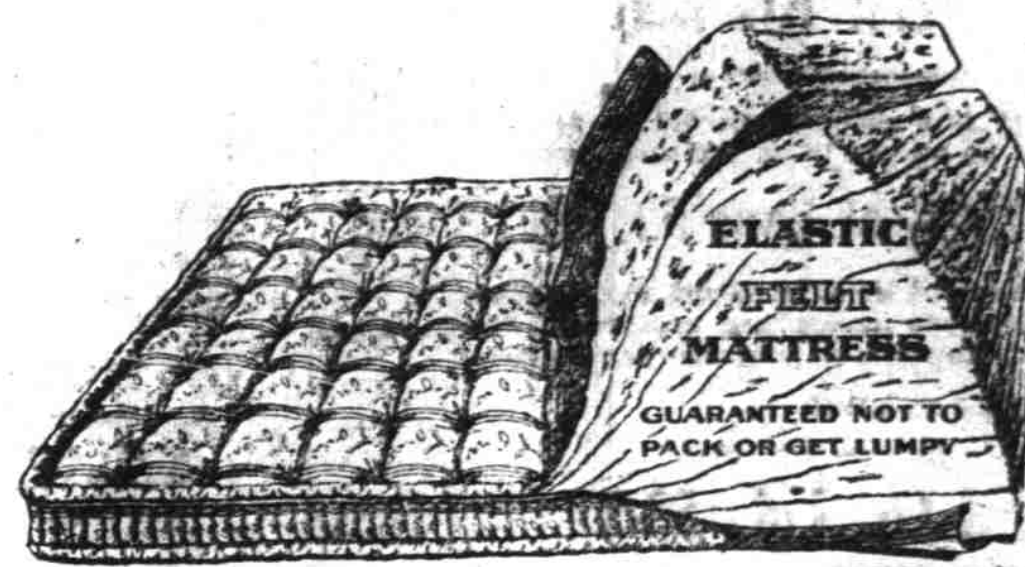
**BORN.**  
CHILD—In Honolulu, September 13, 1912, to Mr. and Mrs. J. F. Child, a son.  
Jim Flynn was awarded the election over Charley Miller at San Francisco in the fifteenth round. Miller broke a rib.  
Clinton W. Howard has been named by Taft to succeed Judge C. H. Hanford of Seattle on the Western Federal bench.

# Hawaiian Cotton Felt Mattresses

Something Entirely New

A new use for one of Hawaii's products that bids fair to be one of the foremost of Hawaii industries. The cotton is grown by the Kancoko Ranch Co. at windward Oahu.

These mattresses are guaranteed to be the best in the market.



45 Lb. Mattress - - - \$26.00  
40 Lb. Mattress - - - \$23.00

The mattress is filled with cotton felt manufactured from selected long fibre cotton grown on the Hawaiian Islands. Guaranteed never to get lumpy, and to be the best felt mattress made.

Should be given sun bath occasionally

# COYNE FURNITURE CO.

Young Building

Sole Distributors